

1 **What is claimed is:**

2 1. A method for converting monochrome images
3 comprising steps of:

4 blocking a monochrome image;

5 obtaining pixel values of monochrome image blocks;

6 layered mapping of the monochrome image with equal
7 grayscale to obtain color values of equal
8 grayscale layers for the monochrome image;

9 assigning each of the equal grayscale layers a
10 corresponding color; and

11 matching the monochrome image blocks with colors
12 corresponding to the equal grayscale layers
13 according to the color values and the pixel
14 values.

1 2. The method as claimed in claim 1, wherein the
2 monochrome image is a 2-bit monochrome image.

1 3. The method as claimed in claim 1, wherein in
2 the blocking step, the monochrome image is blocked in
3 accordance with a minimum calculating unit of 2x2, 4x4 or
4 8x8.

1 4. The method as claimed in claim 3, wherein the
2 2x2 blocks has four sub-blocks each of which refers to a
3 pixel.

1 5. The method as claimed in claim 4, wherein a
2 pixel value of each monochrome image block is obtained by
3 averaging pixel values of the sub-blocks thereof.

1 6. The method as claimed in claim 3, wherein in
2 the blocking step, if the monochrome image block is not a
3 multiplier of the minimum calculating unit, additional
4 blocks must be added thereto to generate a multiplier of
5 the minimum calculating unit.

1 7. The method as claimed in claim 1, wherein a bit
2 number of the pixel values of the monochrome image blocks
3 is defined according to desired color values.

1 8. The method as claimed in claim 7, wherein the
2 number of the equal grayscale layers is defined according
3 to defined color bits.

1 9. The method as claimed in claim 1, wherein each
2 monochrome image block refers to an equal grayscale layer
3 of the monochrome image.

1 10. The method as claimed in claim 1, wherein the
2 equal grayscale layers of the monochrome image are
3 defined by delimiting equal grayscale lines according to
4 a density level of the minimum calculating unit.